IBM DEMO: ORAL SCRIPT & STAGE DIRECTIONS

Theodor H. Nelson

(We see top-of-demonstration area)

(Ladies and) gentlemen, we would now like to demonstrate for you something we hope is new and different-- the Brown University Hypertext Editing System. With a name like that it had better be something special, and we think it is.

Most of the use of computers till now has been for the handling of numbers. The applications you are about to see deal with the handling of text-- ordinary writing, written by people, one letter after another.

The system was originally designed by Theodor H. Nelson, an inventor, and Professor Andries van Dam of Brown University. It was programmed in its present experimental form by students at Brown University, who also contributed many valuable ideas. This research was in part supported by a grant from IBM.

What is a hypertext editing system? Well, it's a system for hypertexts, a system for editing, and a system for hypertext editing. We hope to show you all three of these things today. These three parts of the demonstration correspond to the three sections of the poster-board you see. I'm going to do the talking and ________ is going to do things at the display screen as I describe them.

This is not a technical demonstration-- I think anyone can understand it, even if they know nothing about computers-- so I won't tell you about the 2250 display where _____ is sitting, or the system/360 mod 50 computer that he's hooked up to, which now contains the program for the hypertext editing system.

They hypertext editing system holds written materials-- books, articles and even preliminary notes-- and allows the user to read them and work with them on the screen you see here. The system will even print out the contents whenever he likes, as we will see. (Branch to demo menu.)

Because this experimental system has been programmed to do so many things, we won't try to explain it all at once. Instead we'll enact several different working ~~sx~~ scenes with the system, and explain another part of the system in each scene.

On the screen now is a menu of what's in store. Let's go to the firsts of these delicacies.

(Branch to Pale Fire title page.)

First we will show you how to read on the system. In fact, we will look at a hypertext on this hypertext system, and on the way we will see some of the wonderful features of the system, particularly its "travelling commands."

It is not often that a work of literature is discussed at a computer convention, but we couldn't resist. We wanted to show the Hypertext capacities of this system, so we have taken a real hypertext, the novel Pale Fire by Vladimir Nabokov ((Vla-DEE-mere Na-BO-kov)), an important Russian-American novelist.

You will find copies of the book attached to the exhibit. It is a novel that critic Andrew Field has called "one of the eight masterpieces of the novel in this century," and Mary McCarthy has called "one of the very great works of art of this century." And what makes it relevant to our demonstration is that it is written in hypertext form.

A hypertext is a branching or non-sequential piece of writing, with interconnections among the parts. Even though it is impractical to print hypertexts in books, many authors have used this form for different purposes, none more strikingly than Nabokov in Pale Fire.

Pale Fire is supposedly written by two people-- both characters in the novel. It consists of a thousand-line poem by John Shade, a cantankerous American poet, about death, art and his own life. The rest of the book consists of notes to the poem by Charles Kinbote, who is apparently a lunatic. Kinbote thinks he is the exiled King Charles of a faroff land called Zembla, he thinks he inspired the poem and that it is about him, and that the man who shot the poet John Shade was out to kill him instead. Let's see how it looks on the screen.

This is the title page. (Scroll down by line. The reader at the screen is pressing a scroll button, which enables him to move through the text by steps at any rate he desires.

The material is not divided into "pages," but into whatever natural units the creator desires. These sections can be of any length.

(Bottom of page) We have come to the copyright notice; to go to the table of contents we "turn the page" -- but there aren't any pages! What we do instead is move to the next area. An asterisk on the screen tells us that another area is connected~~;~~ as if by an invisible string; the user presses a jump button-- (user presses button, jump to contents) and presto! Here we are at the table of contents.

The book has a foreword by Kinbote, the poem by John Shade, the weird commentary by Kinbote, linked to specific lines in the poem, and an index, also by Kinbote, that points back into the poem. There is a map of this hypertext above the book you see on the posterboard.

Now, how can we read this book on the hypertext system more effectively than from printed paper? Watch. Let us have our reader start reading at the beginning of John Shade's poem. He is now at an index. Each asterisk shows a connection to something else. He chooses his point of departure to Canto One of the poem, marked by an asterisk, with the light pen, and presses the jump button--

(Jump to poem, Canto One.) and here he is at the start of the poem. Just to give you more of a feeling for the material, we'll play a tape recording, which has nothing to do with the computer.

(The voice of "John Shade," on an unseen tape recorder, reads lines 1 to 4. It is the voice of an aged poet, somewhat crusty and somewhat rustic.)

To the left of that line we see an asterisk, meaning that the mad critic Kinbote has something to say about it. But let's go on a bit more. (Scrolling by line, till line 4 is at the top.) Notice that the reader moves through the work with simple controls, and that more text appears at the bottom of the screen as he goes.

(Voice of John Shade reads lines 5-12.)

Now let us read what Charles Kinbote, the commentator who thinks he is a king in hiding and the subject of the poem, thinks about this. An asterisk in the left margin tells us he has something to say.

(Jump on link at line 12, to comment.)

(Voice of Charles Kinbote reads first 6 lines of comment beginning at line 12, including "Line 12: that crystal land." Kinbote has a rich, operatic voice, and a Finnish or Russian accent.)

Kinbote, who supposedly wrote these notes, is too modest to tell us yet that he is the king. But there's an asterisk on the word "king." Let's see where that leads.

(Jump on link to Index item on Charles II.)

Here we are in the index, brought by a link to the main king mentioned in the book.

(Voice of Kinbote begins reading items on Charles II; volume fades somewhat and the narrator continues.)

This index is actually a part of the novel, in fact kind of a climax... a number of its secrets are revealed here. For instance, let's skip down.

(Voice of Kinbote stops and reader scrolls to bottom line of item.)

(Kinbote's voice: "identity almost revealed, 991; Solus Rex, 1000. See also Kinbote.")

This cross-reference modestly reveals he's the king. All right, let's jump along that link and look under Kinbote.

(Jump on link to index item on Kinbote. Voice of

Kinbote begins reading, but volume is down, so narrator continues.)

Kinbote has a lot about himself. I guess we're not interested right now, so let's go back to the poem. See how we do it: there is a button marked Return on the console. (Push of Return.) Each time Return is pushed, we go back to the last place we jumped from. Now we're at the index item on King Charles. (Return.) Now we're at Kinbote's notes to Line 12. (Return.) Now we're at the beginning of the poem again. (Return.) Now we're at the table of contents! Let's go to the end of the poem.

(Link to Canto Four.)

We can scroll forward in big jumps, too.

(Scroll by page to line 949.)

(Voice of John Shade reads 949 to 952, "the vital rhythm.")

There are two notes to line 949. Let's try the first.

(Link to first note.)

(Voice of Kinbote reads first note.)

The plot is quickening, as in Kinbote's notes John Shade finishes the poem and the murderer approaches. Let's return to the poem (Return button) and try the other note.

(Link to second note from line 949.)

(Voice of Kinbote starts reading second note. Fades gradually as narrator concludes this section.)

Does Zembla exist? Is Kinbote insane or really King Charles? Did the poet Shade believe he was King Charles? Does the murderer Gradus represent more than just literary critics in general? And where are the crown jewels hidden, anyway? The answers may be hidden in the hypertext. We leave these matters to the searching reader-- who must in this day and age, alas, buy a paper copy of the book to find out.

When such systems become available generally, perhaps hypertexts will become the literature of the future.

But this ~~fxxxx fxx~~ future world of electronic publishing is a little beyond our immediate horizon. Not just everyone can have this system today./ (Return to Demonstration menu.) But, scarce as it may be, the Brown University Hypertext Editing System has practical applications today! At Brown it is used by the computer department for publishing technical manuals.

(Branch to Brown manual.)

By the use of this system it is possible to write more in less time, and get it out faster to the final user. In fact, it is possible to make a change in a text and have a printed copy in the hands of a~~m~~ user five minutes later!

On the screen you now see the manual for this system. (Begin scrolling by gas pedal, 2 lines at a time.) It is the same manual I am holding in my hand, but stored word-for-word in the computer. We'd like to show you how easy it is to make editorial changes and print them out.

The system makes it very easy to make a change in the text. Suppose there's something you want to take out. Let's just remove that phrase there-- (read aloud, being sure to vary it from demonstration to demonstration).

(User pushes Delete, points with light pen.)

See? It's gone. Now we just press a button accepting the change-- (button press) and bingo! The text closes up and it's gone from the manual. Let's do it again with the phrase ________ (read a phrase).

(User presses Delete, points at phrase.) It's gone, but there's still a hole where it used to be. That's a fail-safe feature. If you decide you don't want to make the deletion when you see it gone, you cancel the operation. (Gasp from audience as user Cancels.) See?

Now let's put something in. Suppose we want to insert something in the text after the phrase __________ (read a phrase).

(Insert button, lightpen/point.)

Would anyone like to suggest a word or a phrase?

(Suggestion is typed in.)

There it is, in the text. Now we just press the Accept button (button press) and presto changeo! It's right in there, part of the manual. Of course, this is just a copy we've made of the manual, so we're not spoiling their publication plans at Brown

Shall we do it again? Where would you like something put? (accept suggestion) Can anyone recite two or three lines of poetry? (Either take dictation from audience, or "Mary Had a Little Lamb"-- several screen-lines' worth.)

A whole big chunk-- and (button press) it goes in clean as a whistle. Of course, this instruction has the same fail-safe feature: if we didn't like how it looked, we could just have cancelled.

We can also rearrange the text by pushing a "rearrange" button, and pointing with the light pen. First we point at the piece of text we want to move (do so) and then point where we want it put (do so). Is that were we want it to go? If not, we can point again, and make that piece of text jump elsewhere. (Do so.) It won't really be spliced into the text until we press the "accept" buton. We can even use the travelling operations-- scrolling, or jumping on links, and carry that piece wherever we go. (Scroll, point). We can even go elsewhere. We can take it and put it in *Pale Fire*. (Go to *Pale Fire*, Canto One, point.) There's the phrase that's been taken out of the Brown Manual. But Nabokov wouldn't like it, and neither would Brown, so let's cancel. (Cancel.)

We can also copy something without removing it from its original place. Why don't we copy a little *Pale Fire* into the Brown manual? Maybe they could use some poetry. (Do so.)

There it is, nicely in the middle of a paragraph. We can even put it in the middle of a word. (Do so, accept.)

We can also substitute one thing for another very easily. Suppose I wanted to change the word _______ to the word "Rumplestiltskin," which is longer. Just press the Substitute button (do so), point where you mean (do so), and type in the replacement (do so). Shall we accept it? There it is all spliced in/it's gone (depending on audience choice).

Those were some of the editing operations. Now I'm sure you'd like to see how we do fancy typesetting. Not really fancy, but fancy by computer standards. We switch to another mode of operation, called the Format Phase. Now we have in the text certain special codes which cause it to print in certain ways when we send it to the line printer. I'm going to make these show. (Do so.) They're all little cross-hatch marks, but they mean different things. To find out what a hatch-mark means, we poke it with the light pen and the system tells us, at the bottom, what it's supposed to do. (User points.) This one is for capital letters. This one (point) begins an underline. This one (point) ends the underline.

How do we put these typesetting codes into the text? Some of them are put in simply from a menu. (Call format menu.) Just pointing with the light pen, we can decide that our printed copy will have one or two columns-- let's make it ______ (point), we can specify the line width-- let's make it _____ characters, this time-- and even ask for right-hand justification, so the text will line up squarely on the right side of the page.

And do you know how we get a printed copy? Press the print button.

While it's coming out of the line printer, with all our silly changes, we'll take a look at one last use of this hypertext system.

(Return to Demonstration Menu.)

We have already seen several different uses of the Brown University Hypertext Editing System. We know how it can show hypertexts; how it can edit ordinary writing; and how it can print out. But what can it do for the scientific or technical man? In this last part of the demonstration, we will look at one more kind of operation on the system: the creation of structure, or links between parts. Such links may be made quickly and easily by pressing such buttons as "make link" and "make label," which allow the user to create links and short titles for his future jumps.

Interestingly enough, the features of this system were predicted in a famous article written in 1945 by Vannevar Bush. He predicted the creation of something he called the "memex."

(Jump to "memex" area.)

(Voice of dignified male actor: "A memex is a device in which an individual stores all his books, records, and communications and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory.")

Well, maybe someday we all will have systems like this one.

Dr. Bush's memex allowed the user to make links and annotations among all the different documents stored in his file. Let us watch an enactment of some of the things a user could do with the memex system Vannevar Bush predicted.

(User jumps to area called DOCUMENT.)

In Dr. Bush's prediction, the user could file a document in the memex by creating an entry in a "code book;" on the Brown system, by creating a label (press makelabel, type in label, point halfway down screen) which is automatically entered in a list. To get to that document or point in the text (enact Getlabel) you need merely press the Get Label button, and point with the light pen. To create a link between two documents or places within them, press MAKE LINK and point twice with the light pen. (This is enacted.)

Now consider this quote from Dr. Bush's article, and watch it as we do it on today's memex system.

(Each thing is enacted as narrator reads slowly.)

(Voice of dignified actor: "The owner of the memex, let us say, is interested in the origin and properties of the bow and arrow. Specifically he is studying why the short Turkish bow was apparently superior to the English long bow in the skirmishes of the crusades. (Jump to area, TRAIL ON TURKISH BOW.)

He has dozens of possibly pertinent books and articles in his memex.")

His file is a "trail" of interconnected documents, arranged in his own personal hypertext.

Now, since this user of the future does all his reading of books and articles from this very screen, let us watch him as he goes about his studies.

(Back to MEMEX: branch to INDEX OF TODAY'S ARTICLES. X At that menu: branch to A~~N~~ NEW STUDY OF THE TURKISH BOW by E.Grunt. As actor talks, user pretends to read that quickly, scrolling on Gas Pedal at +4.)

(Actor: "First he runs through an interesting but sketchy article...")

... and attaches it to the trail he has already filed. Here we see him making a~~n~~ link to his personal trail by pressing the MAKE LINK button, returning to his trail and pointing again with the light pe~~e~~n. (This happens.) An asterisk appears, meaning the link has been made, and he can get there at any time, like this. (Jump on link.) Yes, it's there. (Return.)

(Actor: "Next, in a history, he finds another pertinent trail of many items."XX)

(User branches to area entitled HISTORY OF ARTILLERY AND ORDNANCE, scrolls 16-at-a-time for awhile. Comes to a branch menu. Makes link to point just above menu, takes it back to his own trail.)

(Actor: "Occasionally he inserts a comment of his own, either linking it into the main trail or joining it by a side trail to a particular item."

(User types in a tag: "this would seem to relate to properties of materials then available.")

(Actor: "When it becommes evident that the elastic properties of available materials had a great deal to do with the bow, he branches off on a side trail which takes him through textbooks on elasticity and tables of physical constants.")

(User branches to text-filled area called ELASTICITY AND PHYSICAL CONSTANTS. Snaps his fingers and starts typing a long insert of his own.)

(Actor: "He inserts a page of ... analysis of his own. Thus he builds a trail of his interest through the maze of materials available to him.")

Perhaps, then, this will be the desk of the future. And perhaps such pioneering research projects as this one, supported in part by IBM, will help pave the way to new horizons for man's mind.

IBD D2 14

(ONE-PAGE HANDOUT)

BROWN UNIVERSITY HYPERTEXT EDITING SYSTEM

This is a demonstration of the Brown University Hypertext Editing System, a futuristic setup for reading and writing at a computer display screen instead of on paper. Everything read or written by the user may be stored in a computer and displayed on the screen, where the user may read or revise it, although he may also have it printed out when he wishes.

This advanced text handling system, developed by a team of researchers centered at Brown University, may not be within reach for ordinary purposes just yet, so it has to be classed as a far-seeing development project. But it is already getting practical exercise in the printing and publication of technical reports.

The system can do a~~n~~ number of ~~[illegible]~~ things, as suggested by its name. First, it may show all parts of a written work, and jump among connections made between its parts. A written work having such jump-around connections is called a hypertext. This form of writing makes it possible to interrelate points and ideas with new flexibility. Hypertext forms have occasionally been used by writers, but must be simple and restricted as long as they have to be printed on paper.

An exemplary hypertext, Vladimir Nabokov's Pale Fire, is used to demonstrate the reader's freedom to explore interconnecte text materials. The literature of the future ~~[illegible]~~ may take such forms.

The system's editing features are shown being used to make changes in a computer manual put out at Brown University. The user at the console may make editorial modifications of any complexity and see the consequences instantly, as the text is modified. If he desires, the system will create a printed copy of his work on a high-speed line printer while he waits.

In the final part of the demonstration, we see an enactment of how the system fulfills a prophecy made ~~b~~ in 1945 by Vannevar Bush concerning the "memex," or desk of the future.

(FOUR-PAGE HANDOUT)

NOTES ON THE DEMONSTRATION OF THE BROWN UNIVERSITY HYPERTEXT EDITING SYSTEM

IBM is pleased to demonstrate at the Spring Joint Computer Conference an advanced text handling system developed partly under IBM sponsorship.

The Brown University Hypertext Editing System was developed as an experimental program for the utilization of today's most advanced technology for the presentation and revision of written materials. It is a program running on an IBM System/360 computer and facing the user through the advanced IBM 2250 visual display terminal. The user's texts are stored on the IBM 2311 or 2314 disk files, and manipulated on the screen by the user through the computer program.

Sitting at this terminal, the user may read texts and interlinked hypertexts, edit and rewrite written materials of any kind, format the text for typesetting, and create hypertexts.

The demonstration has three parts. In the first part of the demonstration, a user is seen reading a complex interlinked text, or hypertext, at the screen. This shows the "travelling commands," user pushbuttons that allow the user swift access to any part of the contained text. The particular hypertext being shown is Pale Fire by Vladimir Nabokov,* a highly respected novel which happens to ~~be~~ have been written in hypertext form. In Nabokov's novel, a thousand-line poem by the character "John Shade" appears with a lengthy commentary and index by the (possibly insane) character "Charles Kinbote," who gradually informs the reader that he is the fugitive king of Zembla, that the poem is really about _him_, and that the man who killed "John Shade" was really an assassin sent from Zembla to kill him, Kinbote.

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The literary tricks and surprises of this novel lie not merely in the poem and the commentary, but the cross-reference connections among them, a rich interrelationship into which Nabokov weaves his ideas about death, life and art.

These complex connections make the novel what Theodor H. Nelson, one of the designers of this system, calls a "hypertext"-- a form of writing with complex interconnections among its parts.*

The Brown University Hypertext Editing System makes it possible to read such complex texts with great ease. In this demonstration, we see a reader browsing through _Pale Fire_, stepping down the text with simple controls as easily as if he were turning pages, jumping from the poem to the commentary and index by pressing buttons and pointing with the light pen of the 2250 display console.

In the second part of the demonstration, we see how the user may write into the system and edit at the screen the texts that have been already stored.

With the text appearing on the screen, the user may perform the conventional editing operations-- insertions, deletions, substitutions, etc.-- and have the gratification of seeing the changes made instantly and directly upon the screen. Not only are they on the screen, but they are assimilated to the stored text itself, for later reference and possible printout.

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* Theodor H. Nelson, "Getting It Out of Our System." In Schechter, _Critique of Information Retrieval_. Thompson Books, 1967.

The same "travelling operations" already seen enable the user to move freely through his text, which may have any complex form of organization, but to move and copy pieces between far-removed parts of the text with great ease and flexibility.

To perform these editing operations, the user presses a button designating the operation he desires, and points at the relevant positions in the text with the light pen of the 2250 display. For instance, to make an insertion in the text, he presses the INSERT button, points once with the light ~~xxx~~ pen at the point where the text is to be inserted, and types in the insertion, which at once appears where designated.

A useful and unusual feature of these editing commands is their "fail-safe" character. The user may view the text after he has made the change, but if he decides he does not like its new arrangement he may cancel before proceeding further, and the change is undone.

Not only may he make editorial changes, but the user may in addition use the computer system to completely prepare the text for automatic printing.

The hypertext editing system acts as a gateway to IBM's Text/360 program, a sophisticated typesetting system using the _________ (model number) line printer with upper-and-lower-case print chain. In this demonstration, the user is shown making choices of line width, automatic justification, underlining and other features, and then commanding printout by pressing a button at the screen.

In the third part of the demonstration, we see how the Brown University Hypertext Editing System fulfills an old prediction: that made by Vannevar Bush in 1945,* of the "memex" that would enable the scientist to read articles at the screen and create interconnections among them. In this enactment we incidentally see the "structure" commands, which permit the creation of links and annotations-- the same links and annotations shown in the demonstration of the first hypertext.

These three demonstrations together explain the name of the system. This "hypertext editing system" may be used for hypertexts; for editing; and finally, for hypertext editing.

This system is an example of the advanced research which IBM has encouraged among its customers, and the possible forerunner of new systems for the dissemination, retrieval, and enjoyment of information.

The system was designed by Theodor H. Nelson, an independent inventor, and Prof. Andries van Dam of the Department of Applied Mathematics, Brown University. The programming was done by students at Brown University, especially Steven Carmody, David Rice and Walter Gross, under the supervision of Professor van Dam.

The system is described in more detail in the article, "A Hypertext System for the 360_x" by Steven Carmody et al., appearing in (complete citation available from van Dam).

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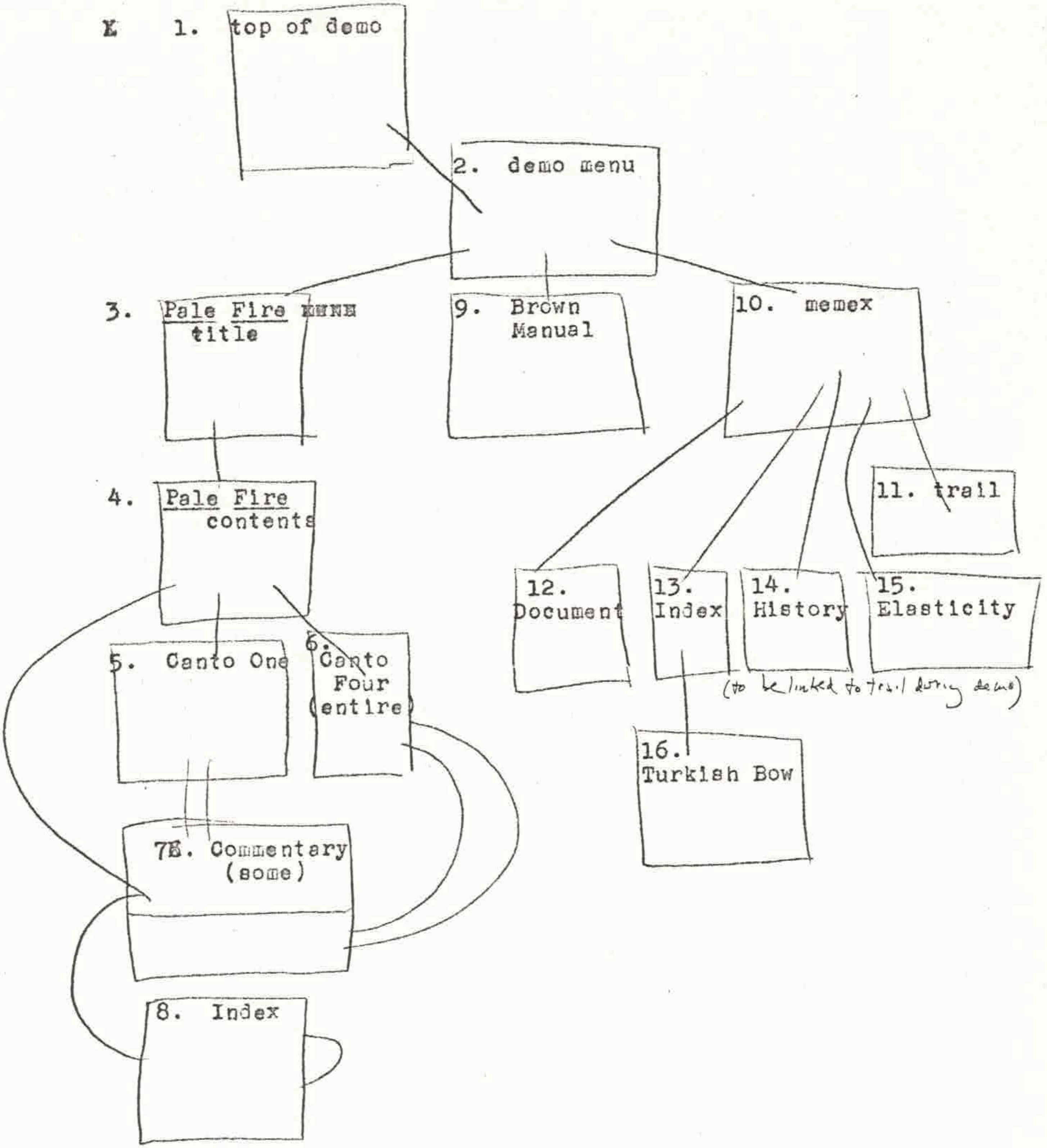
* Vanuever Bush, "As We May Think." Atlantic Monthly, July 1945, 101-108.

The program for this system will be available from the IBM Program Library as a Type 4 user-developed program.

INTERIOR STRUCTURE AND CONTENTS OF DEMO



AREA CONTENTS

1. Top of demonstration

THE

BROWN UNIVERSITY

HYPERTEXT EDITING SYSTEM

* PRINTOUT

* DEMONSTRATION

2. Demonstration menu

DEMONSTRATION MENU

- * PALE FIRE, A HYPERTEXT NOVEL
- * EDITING AND ~~FREE~~ PRINTOUT DEMO: [illegible]
  MANUAL OF THE SYSTEM
- * VANNEVAR BUSH'S "MEMEX"
  -- THE DESK OF THE FUTURE?

3. Pale Fire title

(as in book, through copyright notice)

*CONTENTS

4. Pale Fire contents
(as in book, except with link-asterisks at some points and plain asterisks at ~~x~~others. Links afe used rather than branches for centering and other appearance reasons.)

5. Canto One (part)
(As ~~a~~ in the book. I suggest two points of entry, one at~~x~~ the ~~xxxx~~ poem's title and one at Canto One, linked appropriately to table of contents. Asterisks, some alive, are at the left margin.)

6. Canto Four (entire)
(As in the book. Some asterisks are ~~x~~alive, as above.

7. Commentary. (Certain excerpts, as in Demo Copy of book. Enough material should be input to permit extra scrolling when desired.)

8. Index (part)

(As in the Demo Copy.)

9. Brown Manual. The Edit-phase manual.

10. Memex.

MEMEX, THE DESK OF THE FUTURE?

(Some quote from Bush, a couple of paragraphs long.)

- * DOCUMENT
- * INDEX OF TODAY'S ARTICLES
- * TRAIL ON TURKISH BOW
- * HISTORY OF ARTILLERY
- * ELASTICITY AND PHYSICAL CONSTANTS

11. Trail

TRAIL ON THE TURKISH BOW

FIRST START LOOKING INTO THIS XE IN '75. I LIKED THE ANALYSIS BY SCHNITZEL AND THAT GOT ME STARTED ON THE DIFFERENT MATERIALS AVAILABLE. WOOD TYPES* LEATHER* GLUES*

THE SOCIOLOGICAL CONSIDERATIONS* INTERACT WITH THE MILITARY CONSIDERATIONS.*

ARTICLES ON THE TRAIL

- * THE TURKISH BOW: AN HISTORIC QUANDARY, BY SCHNITZEL.
- * THE SOCIOLOGY OF MILITARY ORDER IN THE MIDDLE AGES, BY JONES
- * LESSER ARTICLES
- * TECHNICAL MATERIALS.

12. Document

DOCUMENT

(Followed by 1½ screenfuls of technical-looking text, possibly from some IBM New York Scientific Center study, for simplicity's sake.)

13. Index

INDEX OF TODAY'S ARTICLES

(Fake branch menu of technical-sounding titles. Suggest research titles from IBM NY Scientific Center. One is live: A NEW STUDY OF THE TURKISH BOW by E. Grunt, going to Area 16.)

14. History

HISTORY OF ARTILLERY AND ORDNANCE

(4 screenfuls, which may be paraphrased from encyclopedia. Simulated branch menu at end consists of significant phrases from the text.)

15. Elasticity

ELASTICITY AND PHYSICAL CONSTANTS

(Screenfuls of text on this subject. May be paraphrased from encyclopedia.)

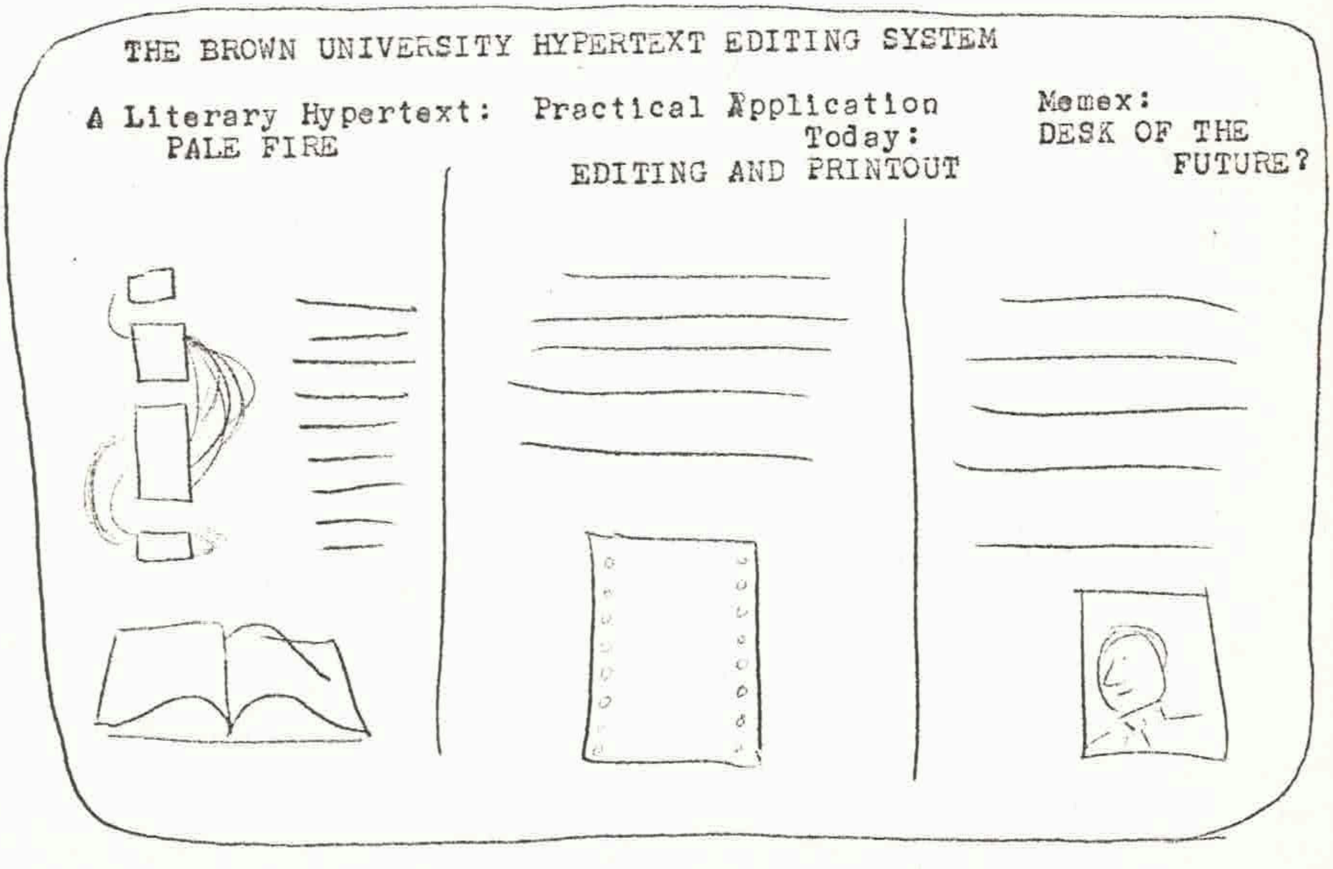
16. Turkish Bow

HISTORY OF THE TURKISH BOW
BY E. GRUNT

(Four screenfuls, double space, of text on Turkish bow. This can be paraphrased from an Encyclopedia, need not be coherent if it contains appropriate phrases.)

POSTERBOARD
~~DISPLAY BOARD~~

I propose an outside posterboard ~~display board~~ both as a teaser and a mnemonic. I visualize it as about five feet wide and three feet tall, painted in IBM colors and divided in three sections. Each section has a title, some text, and something visual. In addition, the *Pale Fire* section should have the book itself, hardcover edition, on a slanted shelf. Passersby should be allowed to turn the pages. (Extra copies should be on hand.) The Editing section should have an actual sheet of printout, possibly a sheaf$_{x}$ glued somewhat askew for effect. The Memex section should have a picture of Bush as he looked in 1945, possibly a sepia print.


THE BROWN UNIVERSITY HYPERTEXT EDITING SYSTEM
A Literary Hypertext: PALE FIRE
Practical Application Today: EDITING AND PRINTOUT
Memex: DESK OF THE FUTURE?

A Literary Hypertext:
PALE FIRE,

a novel by Vladimir Nabokov

Ⓒ 1962 by G.P. Putnam's Sons. All rights reserved.
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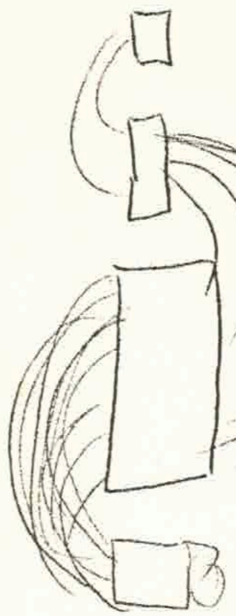
Foreword
by
Charles Kinbote

Poem,
"Pale Fire"
by
John Shade

Commentary
by
Charles Kinbote

~~Index~~
~~(Kinbote)~~

Index
(Kinbote)



Vladimir Nabokov's acclaimed novel, Pale Fire, consists of a poem~~s~~ and links to commentaries. As a hypertext, it may be read with greatest convenience on the Hypertext Editing System.

Practical Application Today:
EDITING AND PRINTOUT

The Hypertext Editing System enables users to revise texts and obtain immediate printout with great ease. The system is in present use for scientific and technical articles and reports.

(Printout sample: actual page of printout from Brown manual (not a Xerox.))

Memex:
DESK OF THE FUTURE?

Vannevar Bush, technology coordinator for President Roosevelt, predicted in 1945 in the Atlantic Monthly a system for reading and interconnecting scholarly articles, called a "memex." This system bears a strong resemblance to Bush's famous "memex" system.
(2-paragraph quote from Bush.)